

# The Firefinches

Genus *Lagonosticta*

by Ian Hinze, Manchester, England

The firefinches are a group of ten species in which the males, and sometimes also the females, usually have a considerable amount of red in their plumage, but which could be crimson, wine-red or even pink, and all but one species have small white dots or tiny bars at the sides of the breast. They have short, rounded or bluntly wedge-shaped tails, a tendency to a crouched posture and feed on the ground. Usually they are birds of the brush, but can often be found living in and around villages and cultivated areas. Their closest relatives are the twinspots of the genera *Clytospiza*, *Hypargos* and *Euschistospiza* and *Pytilias*, *Pytilia*. They are parasitised by the indigobirds, *Vidua*.

## Red-billed Firefinch

### *Lagonosticta senegala*

*Fringilla senegala* Linnaeus, 1766, Syst. Nat., ed. 12, 1, p. 320. There are 10 subspecies.

## Description

Length 10cm (4in). The sexes differ. The *L. s. senegala* male has the crown, nape, mantle, back and rump earth brown washed with rose red, carmine or dull scarlet. The wings are slightly darker brown with varying amounts of red on the wing covert fringes. The rump, upper tail coverts and a varying amount of the outer webs of all but the outermost tail feathers are deep rose-red, dull scarlet or a slightly purplish red. The remainder of the tail is dull black apart from the outermost pair of feathers, which are dull brown. The face, sides of the neck and most of the underparts are rosy red to dull scarlet. The sides of the breast are spotted with small white dots, but this varies individually

and occasionally an unspotted bird occurs. The red on the belly and lower flanks merges into buffish brown on the ventral area. The under tail coverts are buffish brown to drab grey, occasionally with paler fringes and sometimes tinged with red. Birds in worn plumage often appear much browner. The irides are brown to brownish red. The eye rims are a conspicuous yellow. The bill is red or pink with the culmen ridge and ridge of the lower mandible blackish. The legs and feet are brown to brownish flesh-coloured. The palate markings are similar to those of the nestling.

The female has a red stripe from the base of the lower mandible to, and often over, the eye, and sometimes a red suffusion on the feather tips at the side of the face and sides and front of the neck. The rump, upper tail coverts and tail are similar to the male's. The rest of the upperparts are a slightly buffish earth brown, apart from the wings which are a little darker. The underparts are light yellowish drab, brighter and paler buff on the centre of the belly and ventral area. The white spots on the breast are larger than those of the male and usually more profuse, often extending right across the breast and further down the flanks. The eye rims are paler than the male's and sometimes whitish or silvery grey. The bill is similar to the male's, sometimes paler. The juvenile is like the female but without red on the face, no white spots on the underparts, a little patch of dull red on the rump and a black bill (Farrar c.1920). The nestling is yellowish orange with much whitish down. Its mouth markings consist of three black spots on the pale palate, a black half-moon under the tongue, a white tubercle at the base of each upper and lower

mandible and a purplish blue tubercle on each side of the gape.

On several occasions a variety in which the normal red colour has been replaced by a light, bronzy orange and with the bill being of yellow has been observed and captured. One such pair of birds bred in captivity and produced only orange young (Boosey, in Goodwin 1982).

*L. s. rhodopsis* is slightly paler and more yellowish on the brown and buff parts of its plumage.

*L. s. brunneiceps* is of a slightly brighter red than *senegala* and possesses fewer or no white dots on the side of the breast. The irides are frequently reddish or bright orange. The female is more greyish brown above and below and is not as well spotted on the breast.

*L. s. somaliensis* is not unlike *brunneiceps* but both sexes tend to be slightly paler. They differ from *rhodopsis* in not having the yellowish tone to the plumage.

*L. s. ruberrima* has pinkish wine-red to carmine upperparts apart from the nape and wings, which are brown. The belly and under tail coverts are of a darker, more greyish brown compared to the above races and the white dots on the breast are small and often sparse. The bill is dark grey above with a rosy wash to the sides and rose-red below. The female resembles that of *brunneiceps* but may be of a more buffish hue and have a reddish wash to the face, throat, lesser and median wing coverts, breast, flanks and upperparts.

*L. s. rendalli* resembles *senegala* but has very little red on the upperparts except for the face, forehead, wing coverts, rump, upper tail coverts and tail. The brown of the lower parts is more buffy and the red paler. The white dots are more extensive and often spread right across the breast. The irides are bright brownish red to orange-red. The female is like that of *senegala* but more profusely spotted on the breast.

*L. s. confidens* differs from *rendalli* in having paler upperparts and a paler red rump and upper tail

coverts.

*L. s. pallidicrissa* is separated from *ruberrima* by its overall paler coloration, especially the underparts.

There is much individual and geographical variation amongst the races.

#### Field Guide

A tiny bird, usually in pairs or small groups and nearly always the commonest firefinch around human habitations, where it may even enter houses. The male is mostly red, the female brown with some red on her face and rump. Its mainly red bill distinguishes it from all other firefinches except for the Landana Firefinch *L. landanae*, the male of which has a dark greyish brown back, the female a rosy buff breast and both sexes a blackish ventral area and under tail coverts; the Bar-breasted Firefinch *L. rufopicta*, which is mainly dark brown and has both sexes possessing a mauvish red face and breast, and very profuse delicate white bar-like marks rather

than dots; and the Brown Firefinch *L. nitidula*, both sexes of which have mauve-pink faces, throats and upper breasts, profuse white dots, and the remainder of the plumage dull greyish brown.

#### Voice

The locomotion intention or close contact call is a soft high-pitched *dwee, uee* or similar. The distance contact call is a louder and longer-drawn version of the same (Goodwin 1982). There are soft *fweet fweet* (Maclean 1993) or *sweet-fsseeet* (Zimmerman, et al. 1996) call-notes. The distress call is plaintive, long-drawn, high-pitched and far-carrying. The attacking call, which is only audible at close quarters, is a thin, short cry. The alarm call, which may be accompanied by a side to side jerking of the tail, is a low-pitched, abrupt, *tzet, chuk* or *clook* which may be repeated several times in fairly rapid succession, such as *tzet, tzet, tzet* (Goodwin 1982; Maclean 1993). The nest call, uttered by either

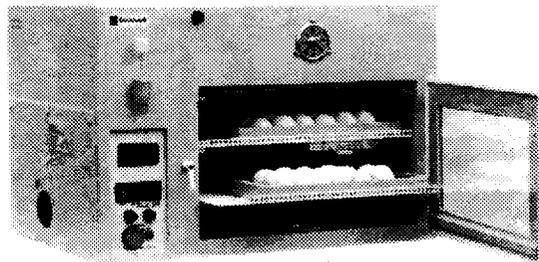
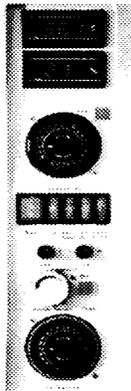
sex, is a rapid series of soft notes, run together with a continuous churring undertone to them. Begging calls of young nestlings are very soft and whispering. Older nestlings and dependent fledglings emit two repeated begging notes, *tset* and *tet*, to make *tset-tet, tset-tet* (Goodwin 1982). Nestlings and fledglings irregularly alternate between two kinds of call (one of them a short note and the other a clear whistle which slurs upward in pitch). As the firefinch matures this whistled note develops into the contact call of the adult and the short note develops into the alarm call of the adult (Payne 1996). The song is a simple melodious phrase of 2-6 soft fluty notes, rising slightly in pitch towards the end, preceded by sharp *tzet* note (Maclean 1993). There is some individual variation. Maclean gives an audiospectrogram of calls.

#### Distribution

*L. s. senegala*: Cape Verde Islands, Senegal and Gambia south-

## GRUMBACH INCUBATORS OF GERMANY

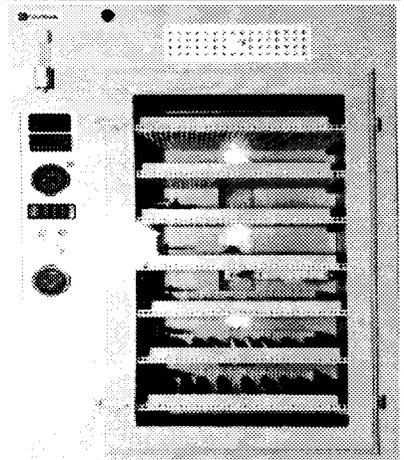
WHEN ONLY THE BEST WILL DO



Item shown Compact S84

Larger units available

Item shown 8203/01/02-Incubator BSS300, includes programmable motor turning, 7 egg trays, each with 8 turnable rollers, adjustable to the size of the egg, directly adjustable automatic humidification system, cool down timer, digital thermometer and humidity readouts.



- Electronic regulation of temperature for maximum precision.
- Egg tray with rollers, adjustable to each size egg.
- Automatic humidity control, adjustable from 40% to 99%, water reservoir 4.5 liters. It can add humidity only.
- Automatic turning, determination of turning intervals and degree by pressing tabs on timer.
- Circulation air system for optimum distribution of temperature.

 Grumbach

LYON ELECTRIC COMPANY INC. IS NOW THE EXCLUSIVE DISTRIBUTOR FOR  
GRUMBACH INCUBATORS OF GERMANY FOR THE U.S.A. AND CANADA  
1690 BRANDYWINE AVENUE  
CHULA VISTA, CA 91911 U.S.A.  
TEL (619) 216-3400, FAX (619) 216-3434  
EMAIL: LYONELEC@CTS.COM, WWW.LYONELECTRIC.COM

 LYON  
ELECTRIC COMPANY, INC.

east and east to Sierra Leone, Liberia, southern Mali, northern Ghana and Nigeria to northern and central Cameroon (Clement, et al. 1993).

***L. s. guineensis*:** coasts of Guinea and Sierra Leone (Clement, et al. 1993).

***L. s. rhodopsis*:** southwest Mauritania and northern Senegal to Mali, Burkina Faso, Niger (to northern Air province), Chad, Central African Republic, southern Sudan and western Ethiopia (possibly also northwest Kenya) (Clement, et al. 1993).

***L. s. brunneiceps*:** highlands (above 1000 m) of Ethiopia (except eastern Eritrea) (Clement, et al. 1993).

***L. s. somaliensis*:** southeast Ethiopia to central Somalia, eastern Kenya (coastal lowlands) - and possibly (?) extreme north-eastern Kenya (specimens lacking) - and eastern Tanzania (south to Usambara Mountains) (Clement, et al. 1993, Zimmerman, et al. 1996).

***L. s. kikuyuensis*:** central Kenya to northern Tanzania (Howard & Moore 1994).

***L. s. ruberrima*:** extreme southern Sudan (borders of Uganda), Uganda, western, central and southern Kenya (where it is a common and widespread resident between 1000 and 2000 m), western Tanzania to central and eastern Democratic Republic of Congo, northeast Angola, extreme northern Zambia, northern Zimbabwe and Malawi (Goodwin 1982; Clement, et al. 1993; Zimmerman, et al. 1996).

***L. s. rendalli*:** central and southern Angola to Zambia, south-east Democratic Republic of Congo, Malawi and southern Tanzania (south of approx. 8°S) south to Mozambique and the Northern Cape Province, South Africa (Clement, et al. 1993).

***L. s. confidens*:** central and eastern North-West Province, Gauteng, Mpumalanga, northern Free State and KwaZulu-Natal, South Africa, to Mozambique (Howard & Moore 1994).

***L. s. pallidicrissa*:** southern Angola to central and eastern Zimbabwe and northern Namibia (Clement, et al. 1993).

### Status

Widespread, common and abundant in places.

### Movements

It is sedentary, with some populations moving only locally or nomadically outside the breeding season. It has also been recorded (*rhodopsis*?) at oasis of extreme southern Algeria, where it may be resident (Goodwin 1982, Clement, et al. 1993).

### Introduced Distribution

Southern Algeria and Morocco (Cramp & Perrins 1994). USA (Clement, et al. 1993).

In southern Algeria the race *L. s. rhodopsis* was introduced at Tamanrasset around 1940, where it occurs near houses and can be found feeding in streets, gardens and orchards. A further colony appears to be established some 40 km to the north-east, in atypical rocky habitat. From at least 1972 it has also occurred at El Golea. In 1954 it was recorded as having bred at In Guezzam, in the extreme south, but disappeared by 1960. Birds have been recorded breeding in southern Algeria (Ahaggar mountains) from April to August.

In Morocco birds have possibly been accidentally released. No further information.

Several pairs which had escaped from captivity bred in Monterey County, California, in 1964 and 1965, but failed to become established.

### Habitat, General Behavior and Feeding

It is found below 2250 m (van Perlo 1995). It naturally inhabits dry areas with an abundance of Acacia woodland, scrub and other types of thicket, rank grass, and surface water. However, it is now very much a bird of cultivated areas, gardens and villages, often appearing tame and confiding. It usually goes around in pairs or small groups and flies to cover when disturbed, emitting call notes. It seeks shade in hot weather and refrains from searching for food in the open during the hotter times of the day. Foraging is performed on the ground in clearings

and on roads, where it largely partakes of the seeds of grasses, especially *Echinochloa*, *Panicum*, *Pennisetum*, *Digitaria*, *Chloris*, *Dactyloctenium*, *Sporobolus* and *Setaria* spp., depending on availability. It sometimes seizes and shakes stems or seed-heads to dislodge seeds. Cultivated grains, such as millet and even rice fragments, are also taken. Fragments of green vegetation and small insects, including termites and tiny caterpillars, make up the rest of the diet (Goodwin 1982; Payne 1980; Cramp & Perrins 1994).

The species would appear to suffer heavy predation. It is believed Genets, *Genetta senegalensis*, and Domestic Cats are important predators. The Pheasant Cuckoo, *Centropus senegalensis*, Shikra Hawk, *Accipiter badius* and Red-collared Falcon, *Falco chiquera*, are among its bird predators. Domestic fowls sometimes take newly fledged young (Goodwin 1982). It is also preyed upon by the Savanna Vine Snake *Thelotornis capensis* and has also been captured by the Agama Lizard *Agama agama* in a small Mango tree at Brikama in The Gambia (Neville Brickell, pers. comm.).

### Courtship Display

The male holds a piece of grass or a feather by one end in his bill and either approaches a female or attracts her to him by performing wing-whirring flights, conspicuous hopping to and fro, or starting to display alone. When she is alongside him he angles his tail, which may be partly spread, in her direction and starts to bob up and down, his feet possibly leaving the perch for brief moments. Sometimes the display takes place on the ground, in which case the male may hop around the female as he performs. Copulation usually follows the courtship display, whereupon the nesting symbol is dropped, the female solicits with quivering tail and the male pecks at her head and nape prior to mounting. Occasionally the female may solicit the male without any obvious prior display from him. Allo-preening is common during breeding and helps cement pair-bonding.

## Nesting

Nests are constructed in a variety of sites: in thatched roofs, crowns of palms, bushes, low walls, in a hole in a bank, on the ground in a depression, or among rank vegetation (Goodwin 1982; Payne 1980). It has also been recorded taking over a disused weaver's nest (Someren, in Cramp & Perrins 1994). Nests are usually never more than 4-5 meters above ground, frequently less, and are roundish and rather loosely constructed out of dried grass, rootlets, dead leaves or other materials. A large entrance hole is made in one side, sometimes with a small grass canopy above it, reminiscent of part of an entrance tube. The inside of the nest is thickly lined with feathers, for which the male may have to fly some distances to acquire. Only the male collects nesting material and builds. Old nests are sometimes relined and used again, though not necessarily by the original pair. Cramp & Perrins (1994) report that there is a record of one nest surviving five years of use.

The average size of a clutch of eggs is 3 or 4 and these are incubated by both sexes for 11-12 days. The eggshells are eaten by the parents immediately after the young hatch. The parents brood the young alternately, but only the female broods at night. The young fledge around 14-18 days and are fed by both parents for about 8 days more, mostly by the male because the female is quick to lay a further clutch. The young may remain associated with their parents for 2-3 weeks after fledging. The species is frequently parasitised by the Village Indigo-bird, *Vidua chalybeata* (Payne 1979, 1996), which often enters the nest and lays while the Firefinch is still in the nest (Prof. Robert Payne, pers. comm.).

The breeding season at Richard Toll, northern Senegal, is mainly August to May, with October to December (inclusive) the period particularly favoured, i.e. just after the rains when seeds are plentiful, and it appears to breed in all months in the Gambia. In Zambia most pairs breed from March to May (sometimes as late as August), in the late rains and early dry season. It

has been known to breed in the Hoggar Mountains in April, in Nigeria from November to January, in Sudan in July and August, in Ethiopia in September and October, in Kenya from March to July and September to February (in the rainy and dry seasons, as in Senegal), in Tanzania from March to July, in Malawi from February to October and in December, in Zaire from December to March, in Zimbabwe from January to August, in KwaZulu-Natal from January to March, in the North-West, Gauteng and Mpumalanga provinces of South Africa from December to April, and all months (mainly December-April) in Zimbabwe (Cramp & Perrins 1994, Goodwin 1982, Gore 1990, Maclean 1993).

## Captive Observations

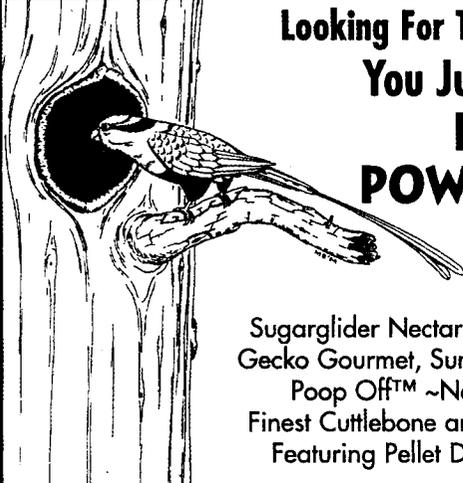
It is one of the most frequently imported waxbills in the UK and a marvellous little bird to add to any collection. However, it is particularly susceptible to early mortality on first arriving, especially the females, so it is essential that it is given plenty of warmth, no less

than 18°C (65°F). Even when settled, the temperature in which it is housed should not be allowed to drop below this figure for any length of time.

It was first bred in the UK in 1898, by C. D. Farrar (Farrar 1898), and today it can be considered a regular and willing breeder, though results tend to fluctuate. It certainly offers tremendous scope for domestication. Half-open-fronted nest-boxes are ideal for breeding and the nesting material offered should consist of coconut fibres, moss, fine dry grass and 2 inch-long strands of sacking fibre. Fine hair, wool, and feathers are excellent for use as a nest lining.

Emery (1996), who regularly bred the species for a number of years, found his birds generally preferred to breed in a nest-box 18 inches from the ground. The young were reared on whiteworm and mealworms. After 10 days the amount of livefood taken by the parents was greatly reduced.

It often becomes tame and, in a cage in the house, may become quite



**Looking For The Best Lory Diet?  
You Just Found It!**  
**LORY LIFE™  
POWDER & NECTAR**

**AVICO**

Sugarglider Nectar, Universal Insectivore Diet,  
Gecko Gourmet, Sunbird Nectar, Mynah Pellets,  
Poop Off™ ~No Work~ Cage Cleaner  
Finest Cuttlebone and the Best Prices Available  
Featuring Pellet Diets and Bulk Seed Mixes

**From all of the top Manufacturers**

KAYTEE · ZUPREEM · GOLD CUP · LEACH · MAZURI

Soak & Cook, California Spray Millet, Vitamin Supplements,  
Hand Feeding, Nest Boxes, Breeder Mixes, Speciality Diets  
*Breeder discounts are available*

**CUTTLEBONEPLUS  
AVICO™ SPECIALTY DIETS**

768 N. Twin Oaks Valley Rd., Suite A • San Marcos, CA 92069  
**Order Desk (800) 747-9878**  
Dick Schroeder (760) 591-4951 • Fax (760) 591-4556  
www.cuttleboneplus.com • Email: cuttleboneplus@aol.com Owner: Dick Schroeder, Breeder/Authority on Softbills, Lories & Pet Parrots

**Corporate Sponsor**  
**Sun Seed Company**

Bowling Green, Ohio

**Life Members**

Don Hedstrom  
Veta & Bob Hollaway  
Diana Holloway  
Jeff Humphries  
Melinda Julbert  
Mitsuo Kuribara  
Danny Large  
Tiffany Latino  
Marion Packer  
Mary Ellen & Jim Le Page  
Perry Little  
Felicia Lovelett  
Ingr Mansoor  
Thomas C. Marshall  
Douglas L. Martin  
Noella & Dan McCormic  
Julie Weiss Murad  
Esther & Ken Ohta  
David Pesco  
Louis B. Pieper, Jr., DVM  
Luanne Porter  
Richard Porter, MD  
Mark Sargent  
Ellen Schrieber  
Nancy Selz  
Martha Siegrist  
Nancy & Joe Speed  
Wayne E. Smyth  
Larry & Gayle St. Cyr  
Kathleen & J.C. Szabo  
Michelle Tomerlin  
Michelle Torrey  
Richard Towill  
Dr. & Mrs. Robert G. Travnicek  
Peter Via  
Natalie & Steven Weiss  
Laura & Bruce Winter  
Jan & Don Winter  
Don & Sandra White  
Henry Wojtaniec

**Charter Life Members**

Gerald and Elizabeth Jennings

**Honorary Life Members**

Robert J. Berry  
Les Gonda  
Frank and Mary Kozeluh  
Wayne Smyth

**Peregrine Fund Founders**

Tom J. Cade, Ph.D.  
William J. Burnham, Ph.D.  
Frank M. Bond  
Robert B. Berry  
James Weaver

**Life Members**

Laurie Baker  
Laura Barwick  
Marion Beal  
Diane Marion bock  
Susan Boyer  
Sandi & Martin Brennan  
Yvonne Catena  
Janis & Jeff Clark  
Jim Cobb  
Belkys Colter  
Linda L. Compton  
Delia & Bill Colman  
Carmen Daily  
Wanda Elder  
Susan Kay Ferguson  
Sharon Garsee  
Beth & Dwight Greenberg  
Earl Haga  
Mark Hagen  
Robert Hansard  
Robert Harrison  
Marilyn & Jim Hawley  
Jonathan Higbee  
Barbara Hill

Corporate Member  
**Sunshine Bird Supplies**

Miami, Florida

confiding. There is a rather pathetic report (Nicholas 1936) of an old lady who, for many years, had been an invalid and who kept a pair in her room for four years. There was no doubt the birds recognised their mistress and at breakfast-time each morning the male bird would sing his soft fluty song, as though pleased to see her. Unfortunately, one bright, sunny morning in June the old lady died. The birds were removed to another room, but they refused to eat, and lacked all their former cheerfulness and vivacity. Fearing for the birds' health, anxious relatives placed them back in their old room. Immediately they began calling, apparently for the familiar voice that no longer responded. A few days later both birds died.

**Other Names**

Senegal Firefinch, Common Firefinch, Little Ruddy Waxbill, Rosy Firefinch, and Little Firefinch.

**REFERENCES**

- Brickell, N. & Konigkramer, T. (Eds.) 1997. African birds in field & aviary - a guide to a mixed collection. Afri. Bird Book Pub., Westville, KwaZulu-Natal, S.A.
- Clement, P., Harris, A. & Davis, J. 1993. Finches and sparrows. Christopher Helm, London.
- Cramp, S. & Perrins, C. M. 1994. Handbook of the Birds of Europe the Middle East and North Africa, Vol. VIII. O.U.P., Oxford.
- Emery, C. A. 1996. The Red-billed Firefinch. The Estrildian, Vol. 4, No. 1, pp. 32-34. Est. Forum.
- Farrar, C. D. 1898. Nesting of the African Firefinch. Avicultural Magazine. The Avicultural Society, England.
- Goodwin, D. 1982. Estrildid finches of the world. Brit. Mus. (Nat. Hist.), London.
- Gore, M.E.J. 1990. Birds of The Gambia - 2nd revised edition. B.O.U., Oxford.
- Koepff, C. 1984. The new finch handbook. Barron's, New York.
- Maclean, G. L. 1993. Roberts' birds of southern Africa - sixth edition. New Holland, London.
- Nicholas, B. M. 1936. Bird-keeping for novice and expert. Frederick Warne, London.
- Payne, R. B. 1979. Song structure, behaviour, and sequence of song types in a population of village indigobirds, *Vidua chalybeata*. Anim. Behav., 27: 997-1013.
- Payne, R. B. 1980. Seasonal incidence of breeding moult and local dispersal of red-billed firefinches *Lagonosticta senegalensis* in Zambia. Ibis, 122: 43-56.
- Payne, R. B. 1996. Field identification of the Indigobirds. Bull. African Bird Club, Vol. 3, No1, pp.14-25.
- van Perlo, B. 1995. Collins illustrated checklist - birds of eastern Africa. HarperCollins, London.
- Zimmerman, D. A., Turner, D. A. & Pearson, D. J. 1996. Birds of Kenya and northern Tanzania. Christopher Helm, London.

